

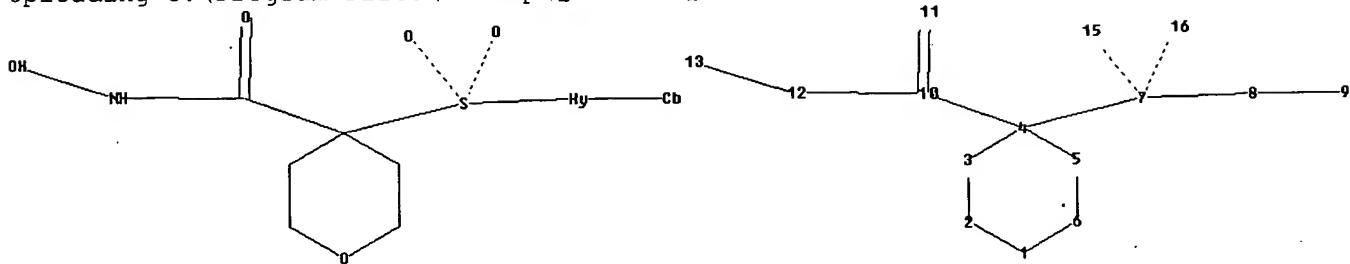
10/722,104

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chain nodes :

7 8 9 10 11 12 13 15 16

ring nodes :

1 2 3 4 5 6

chain bonds :

4-7 4-10 7-8 7-16 7-15 8-9 10-11 10-12 12-13

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6

exact/norm bonds :

4-7 7-8 7-16 7-15 8-9 10-11 10-12

exact bonds :

1-2 1-6 2-3 3-4 4-5 4-10 5-6 12-13

isolated ring systems :

containing 1 :

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 8:Atom 9:Atom 10:CLASS  
11:CLASS 12:CLASS 13:CLASS 15:CLASS 16:CLASS

Generic attributes :

8:

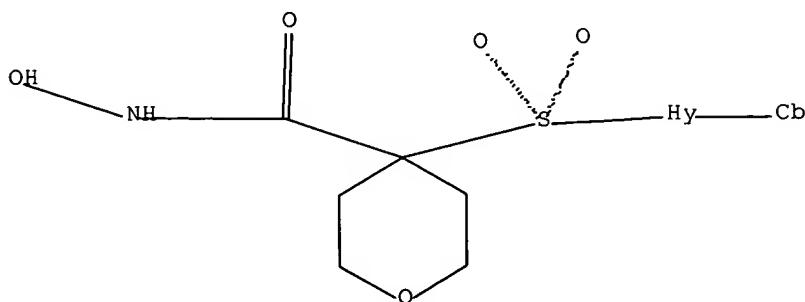
Saturation : Unsaturated

L1 STRUCTURE UPLOADED

=> dis 11

L1 HAS NO ANSWERS

L1 STR



Structure attributes must be viewed using STN Express query preparation.

=> s 11 sam  
L2 3 SEA SSS SAM L1

=> s 11 full  
L3 41 SEA SSS FUL L1

=> file caplus

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L4 2 L3

=> s 14 and pd<sept 2003  
23766849 PD<SEPT 2003  
(PD<20030900)  
L5 1 L4 AND PD<SEPT 2003

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L5 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 1999:388166 CAPLUS Full-text  
DN 131:44740  
TI Preparation of N-hydroxytetrahydropyridylsulfonylacetamides and related compounds as matrix metalloprotease inhibitors.

IN Dack, Kevin Neil; Whitlock, Gavin Alistair

PA Pfizer Limited, UK; Pfizer Inc.

SO PCT Int. Appl., 149 pp.  
CODEN: PIXXD2

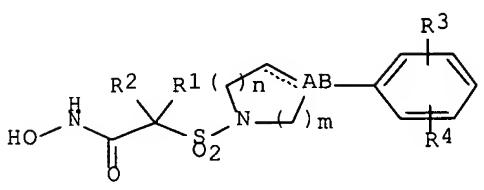
DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9929667	A1	19990617	WO 1998-EP6640	19981009 <--
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA	2312935	A1	19990617	CA 1998-2312935	19981009 <--
CA	2312935	C	20060314		
AU	9912301	A	19990628	AU 1999-12301	19981009 <--
AU	741859	B2	20011213		
EP	1036062	A1	20000920	EP 1998-955494	19981009 <--
EP	1036062	B1	20040102		
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BR	9813360	A	20001017	BR 1998-13360	19981009 <--
TR	200001611	T2	20001023	TR 2000-200001611	19981009 <--
HU	200100845	A2	20010828	HU 2001-845	19981009 <--
HU	200100845	A3	20021228		
JP	2001525396	T	20011211	JP 2000-524264	19981009 <--
JP	3445242	B2	20030908		
NZ	504421	A	20020201	NZ 1998-504421	19981009 <--

AT 257151	T 20040115	AT 1998-955494	19981009
PT 1036062	T 20040430	PT 1998-955494	19981009
ES 2212373	T3 20040716	ES 1998-955494	19981009
AP 930	A 20010126	AP 1998-1412	19981203 <--
W: .BW, GM, GH, KE, MW, SD, UG, ZM, ZW			
ZA 9811112	A 20000605	ZA 1998-11112	19981204 <--
NO 2000002826	A 20000726	NO 2000-2826	20000602 <--
HR 2000000373	A1 20001231	HR 2000-373	20000605 <--
BG 104506	A 20010131	BG 2000-104506	20000605 <--
US 6495568	B1 20021217	US 2001-423359	20011012 <--
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OS MARPAT 131:44740			
GI			

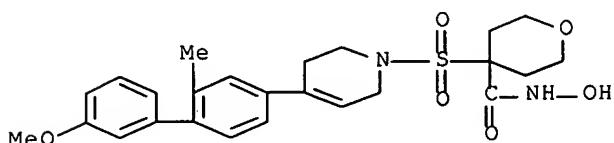


AB Title compds. [I; dotted line = optional double bond; A = C, CH; B = CH<sub>2</sub>, O, null; R<sub>1</sub>, R<sub>2</sub> = H, (substituted) alkyl, alkenyl; R<sub>1</sub>R<sub>2</sub>C = (benzo-fused) C<sub>3</sub>-6 cycloalkyl group optionally incorporating O, SO, SO<sub>2</sub>, NR<sub>6</sub>; R<sub>3</sub> = H, halo, R<sub>7</sub>, OR<sub>7</sub>; R<sub>4</sub> = H, alkyl, alkoxy, CF<sub>3</sub>, halo; R<sub>6</sub> = H, alkyl; R<sub>7</sub> = (substituted) mono- or bicyclic ring system; m = 1, 2; n = 0-2; with the proviso that B is not O when A is C], were prepared as MMP inhibitors useful in the treatment of tissue ulceration, wound repair and skin diseases. Thus, Me 2-[4-(3-methyl-4-phenylphenyl)-1,2,3,6-tetrahydropyridin-1-ylsulfonyl]acetate (preparation given) was refluxed with NH<sub>2</sub>OH.HCl and K<sub>2</sub>CO<sub>3</sub> in THF/MeOH to give N-hydroxy-2-[4-(3-methyl-4-phenylphenyl)-1,2,3,6-tetrahydropyridin-1-ylsulfonyl]acetamide. The latter inhibited matrix metalloproteinase 3 with IC<sub>50</sub> = 16 nM.

IT 227304-22-5P 227304-26-9P 227304-35-0P  
227304-36-1P 227304-51-0P  
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(preparation of N-hydroxytetrahydropyridylsulfonylacetamides and related compds. as matrix metalloprotease inhibitors)

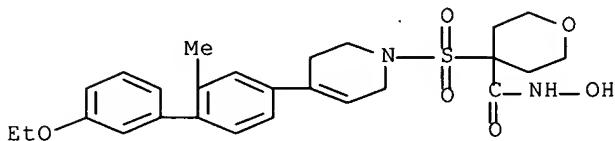
RN 227304-22-5 CAPLUS

CN 2H-Pyran-4-carboxamide, 4-[[3,6-dihydro-4-(3'-methoxy-2-methyl[1,1'-biphenyl]-4-yl)-1(2H)-pyridinyl]sulfonyl]tetrahydro-N-hydroxy- (9CI) (CA INDEX NAME)



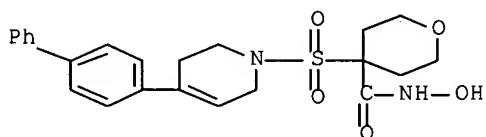
RN 227304-26-9 CAPLUS

CN 2H-Pyran-4-carboxamide, 4-[[4-(3'-ethoxy-2-methyl[1,1'-biphenyl]-4-yl)-3,6-dihydro-1(2H)-pyridinyl]sulfonyl]tetrahydro-N-hydroxy- (9CI) (CA INDEX NAME)



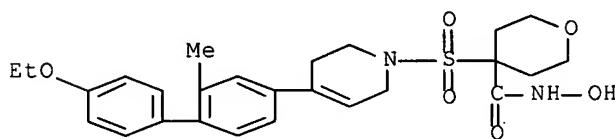
RN 227304-35-0 CAPLUS

CN 2H-Pyran-4-carboxamide, 4-[(4-[1,1'-biphenyl]-4-yl-3,6-dihydro-1(2H)-pyridinyl)sulfonyl]tetrahydro-N-hydroxy- (9CI) (CA INDEX NAME)



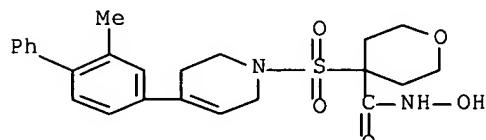
RN 227304-36-1 CAPLUS

CN 2H-Pyran-4-carboxamide, 4-[[4-(4'-ethoxy-2-methyl[1,1'-biphenyl]-4-yl)-3,6-dihydro-1(2H)-pyridinyl]sulfonyl]tetrahydro-N-hydroxy- (9CI) (CA INDEX NAME)



RN 227304-51-0 CAPLUS

CN 2H-Pyran-4-carboxamide, 4-[[3,6-dihydro-4-(2-methyl[1,1'-biphenyl]-4-yl)-1(2H)-pyridinyl]sulfonyl]tetrahydro-N-hydroxy- (9CI) (CA INDEX NAME)



RE.CNT 2

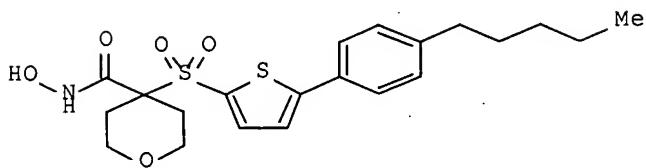
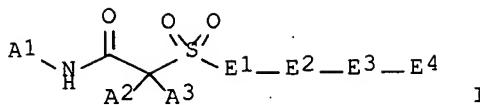
THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L6 1 L4 NOT L5

=> dis 16 bib abs fhitstr

L6 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 2004:467885 CAPLUS Full-text  
DN 141:38527  
TI Preparation of heteroarylsulfonylmethyl hydroxamic acids and amides and their use as protease inhibitors  
IN Becker, Daniel P.; Carroll, Jeffery N.; Fobian, Yvette M.; Grapperhaus, Margaret L.; Hansen, Donald W., Jr.; Heintz, Robert M.; Kassab, Darren J.; Massa, Mark A.; McDonald, Joseph J.; Nagy, Mark A.; Pitzele, Barnett S.; Rico, Joseph G.; Schmidt, Michelle A.; Spangler, Dale P.  
PA Pharmacia Corporation, USA  
SO PCT Int. Appl., 252 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
FAN.CNT 1

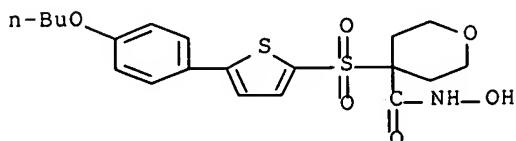
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004048368	A2	20040610	WO 2003-US37942	20031124
	WO 2004048368	A3	20040812		
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	CA 2506796	A1	20040610	CA 2003-2506796	20031124
	AU 2003300800	A1	20040618	AU 2003-300800	20031124
	EP 1565459	A2	20050824	EP 2003-812052	20031124
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	BR 2003016506	A	20051004	BR 2003-16506	20031124
	JP 2006513270	T	20060420	JP 2005-510336	20031124
	US 2004142979	A1	20040722	US 2003-722104	20031125
PRAI	US 2002-429068P	P	20021125		
	US 2003-504281P	P	20030919		
	WO 2003-US37942	W	20031124		
OS	MARPAT 141:38527				
GI					



**AB** Title compds. I [wherein A1 = H, OH, cycloalkyloxy, heterocyclyloxy; A2, A3 = independently H, (un)substituted (cyclo)alkyl(thio), alkenyl, alkynyl, heterocyclyl, etc.; or CA2A3 = (un)substituted cycloalkyl, heterocyclyl, such as tetrahydropyranyl; E1 = (un)substituted heteroaryl; E2 = (un)substituted cycloalkyl; E3 = a bond, O, CO, CO<sub>2</sub>, OCO, S, SO, SO<sub>2</sub>, OSO<sub>2</sub>, SO<sub>2</sub>O, C(=NH), C(=NOH), (un)substituted NH, CONH, NHCO, CONHNHCO, NHCONH, NHSO<sub>2</sub>, SO<sub>2</sub>NH, NHC(=NH), NHC(=NOH), C(=NH)NH, C(=NOH)NH, (carbonyl)alkyl, alkenyl, alkanoyl; E4 = H, halo, CN, (un)substituted (cyclo)alkyl, alkenyl, alkynyl, heterocyclyl; and salts thereof] were prepared as inhibitors of protease activity, particularly matrix metalloproteinase (MMP), TNF- $\alpha$  convertase, or aggrecanase activity. For example, coupling of 2-thiopheneboronic acid with 4-butoxybromobenzene gave 2-(4-butoxyphenyl)thiophene (58%), which was treated with Me disulfide and Oxone to afford the 5-(methylsulfonyl)thiophene derivative (58%). Reaction of the Me sulfone with t-Bu carboxylate anhydride using lithium bis(trimethylsilyl)amide provide the tert-Bu  $\alpha$ -(thienylsulfonyl)acetate (89%). Tert-Bu 4-[5-(4-butoxyphenyl)thien-2-yl]sulfonyl]tetrahydro-2H-pyran-4-carboxylate (91%) was produced by cycloaddn. of the acetate with bis(bromoethyl) ether in the presence of 18-crown-6. Deesterification (85%) with TFA, followed by amidation (100%) with O-(tetrahydro-2H-pyran-2-yl)hydroxylamine and O-deprotection (74%) with HCl gave II. The latter inhibited the human recombinant MMP-1, MMP-2, MMP-9, MMP-13, and MMP-14 cleavage of peptide substrates with Ki values of >1250 nM, 0.483 nM, 0.806 nM, 0.127 nM, and 466 nM, resp. Thus, I and their pharmaceutical compns. are useful for treating tissue destruction, fibrotic diseases, matrix weakening, defective injury repair, cardiovascular disease, pulmonary disease, kidney disease, liver disease, ophthalmol. disease, and/or CNS diseases (no data).

**IT** 701270-37-3P, 4-[5-(4-Butoxyphenyl)thien-2-yl]sulfonyl]-N-hydroxytetrahydro-2H-pyran-4-carboxamide  
**RL:** PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (protease inhibitor; heteroarylsulfonylmethyl hydroxamic acids and amides and their use as protease inhibitors)

**RN** 701270-37-3 CAPLUS  
**CN** 2H-Pyran-4-carboxamide, 4-[5-(4-butoxyphenyl)-2-thienylsulfonyl]tetrahydro-N-hydroxy- (9CI) (CA INDEX NAME)



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